

III. AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Withdrawn) A starting-process controller for starting a piezomotor (4),
 - having a voltage-controlled oscillator (1)(VCO), a power output stage (2), and a resonance converter (3), wherein
 - the oscillator (1)(VCO) generates the control signals required for the power output stage (2),
 - the resonance converter (3) converts the stepped output voltage from the power output stage (2) into a sinusoidal voltage at its output,
 - the piezomotor (4) is driven by the sinusoidal voltage from the resonance converter (3),
 - the motor current that flows when the piezomotor (4) is driven is measured and compared with the phase of the drive voltage in a phase comparator (6),
 - the output signal from the phase comparator (6) is a measure for the phase difference at the time between current and voltage,
 - a phase-locked loop filter (8) smoothes the phase-difference signal,
 - the smoothed signal controls the oscillator (1)(VCO), and
 - a start-assisting circuit element (10) fixes the output voltage from the phase-locked loop filter (8) at start-up and thus applies a constant voltage to the input of the voltage-controlled oscillator (1)(VCO).

2 – 4 (Cancelled)

5. (Withdrawn) A starting-process controller as claimed in claim 1, characterized in that the length in time of a signal for activating the switching element (10) is set to a fixed duration from the beginning of start-up.

6. (Withdrawn) A starting-process controller as claimed in claim 1, characterized in that the activating signal causes the motor (4) to break away.

7. (Withdrawn) A starting-process controller as claimed in claim 1, characterized in that the activating signal is triggered by the "power-on".

8. (Withdrawn) A starting-process controller as claimed in claim 1, characterized in that the activating signal is generated by a digital counter or a state machine.

9. (Withdrawn) A starting-process controller as claimed in claim 1, characterized in that the activating signal is generated by a digital processor.

10. (Currently Amended) A starting-process controller for starting a piezomotor (4), comprising:

- having a voltage-controlled oscillator (1)(VCO), a power output stage (2), and a resonance converter (3), wherein
- the VCO oscillator (1)(VCO) generates the control signals required for the power output stage (2),
- the resonance converter (3) converts the stepped output voltage from the power output stage (2) into a sinusoidal voltage at its output,
- the piezomotor (4) is driven by the sinusoidal voltage from the resonance converter (3),
- the motor current that flows when the piezomotor (4) is driven is measured and compared with the phase of the drive voltage in a phase comparator (6),
- the output signal from the phase comparator (6) is a measure for the phase difference at the time between current and voltage,
- a phase-locked loop filter (8) configured to smoothes the phase-difference signal,
- the smoothed signal controls the VCO oscillator (1)(VCO), and
- an adjustable time-delay element (15) is provided, by which the phase angle between the voltage applied to the motor and the motor current is changed in start-up operation from an initially large starting angle towards a smaller angle at the an operating point, so that start-up will be completed safely and reliably irrespective of the loading condition.

11. (Currently Amended) The A starting-process controller as claimed in of claim 10, characterized in that wherein the reduction in phase-angle during the start-up process is in the form of a ramp.
12. (Currently Amended) The A starting-process controller as claimed in of claim 10, characterized in that wherein the reduction in phase-angle during the start-up process is effected by means of a digital counter (15a).
13. (Currently Amended) The A starting-process controller as claimed in of claim 10, characterized in that wherein the starting value of the counter (15a) fixes the phase-angle.
14. (Currently Amended) The A starting-process controller as claimed in of claim 12, characterized in that wherein the phase-angle is fixed by the final count reached by the digital counter (15a).
15. (Currently Amended) The A starting-process controller as claimed in of claim 10, characterized in that wherein the start-up process is determined by means of a counter (11a).
16. (Currently Amended) The A starting-process controller as claimed in of claim 15, characterized in that wherein the counter (11a) counts single or multiple oscillations of the oscillator frequency.
17. (Currently Amended) The A starting-process controller as claimed in of claim 15, characterized in that the counter (11a) counts oscillations of a reference frequency forming a clock signal.
18. (Currently Amended) The A starting-process controller as claimed in of claim 15, characterized in that wherein the counts made by the counter (11a) are used directly for setting the phase delay.

19. (Currently Amended) The A starting-process controller ~~as claimed in~~ of claim 10,
~~characterized in that wherein~~ the counts are converted into the value for setting the phase delay.
20. (Currently Amended) The A starting-process controller ~~as claimed in~~ of claim 10,
~~characterized in that wherein~~ the counts are converted into values for setting the phase delay by
means of a table (16) in a memory device (RAM or ROM).
21. (Currently Amended) The A starting-process controller ~~as claimed in~~ of claim 10,
~~characterized in that wherein~~ the starting process is monitored by a programmable control device
such as a microprocessor or a DSP.
22. (Currently Amended) The A starting-process controller ~~as claimed in~~ of claim 21,
~~characterized in that wherein~~ the microprocessor monitors the phase delay digitally.